



O. H. M. S.

*W. J. Gerald*  
Deputy Minister

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LABORATORY  
OF THE  
INLAND REVENUE DEPARTMENT  
OTTAWA, CANADA.

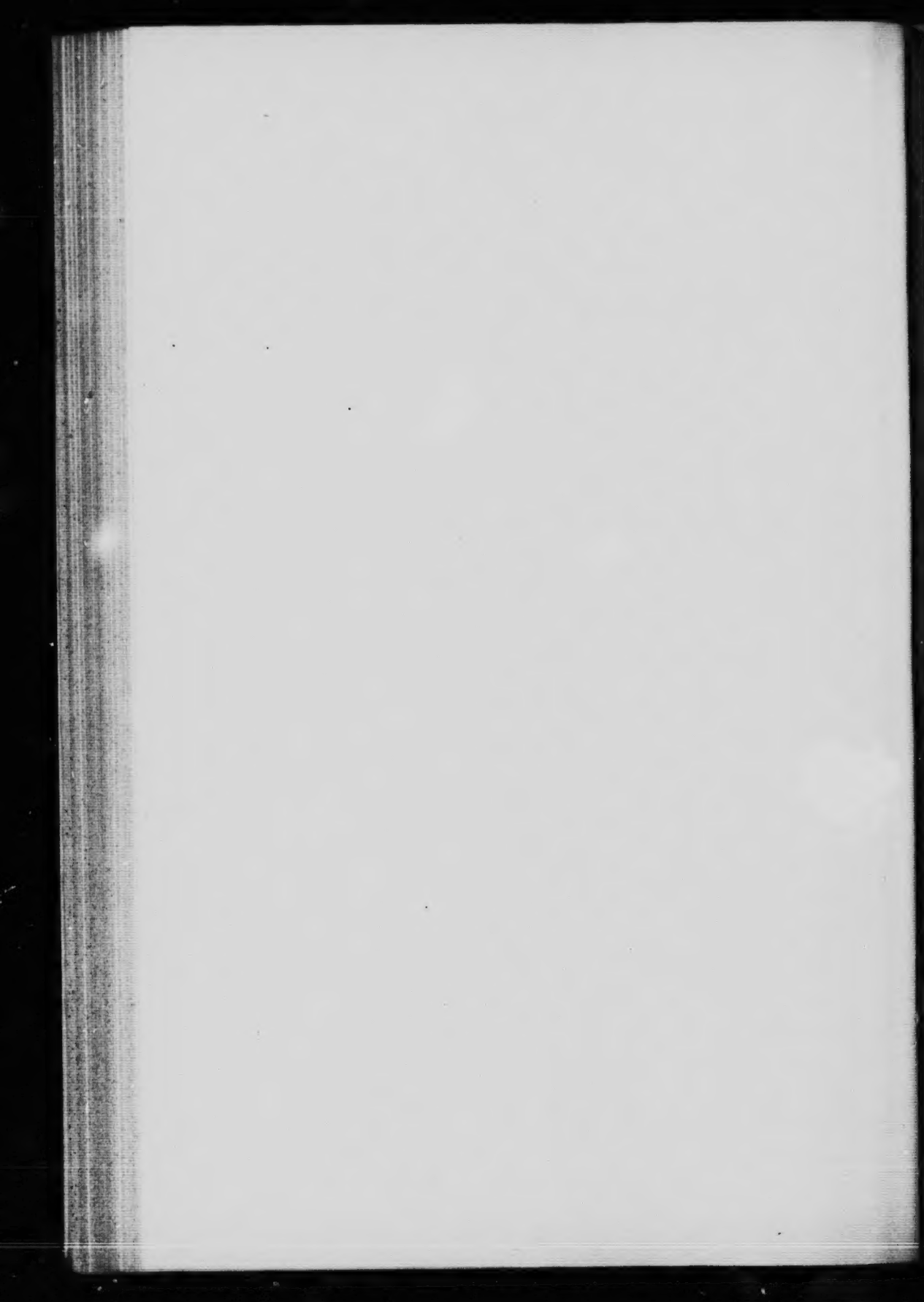
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BULLETIN No. 183

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TEA.

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# LABORATORY

OF THE

## INLAND REVENUE DEPARTMENT

OTTAWA, CANADA.

### BULLETIN No. 183.

#### TEA.

OTTAWA, July 6, 1909.

W. J. GERALD, Esq.,  
Deputy Minister of Inland Revenue.

SIR,—I have the honour to submit to you, herewith, a report upon 222 samples of Teas, collected throughout Canada, in April of the present year.

Tea has been examined on three former occasions, under the Adulteration of Food Act. In April 1891, a collection of 58 samples was made, and submitted for analysis to the late Professor Kenrick of Winnipeg. His report will be found in Bulletin No. 24 published in June, 1891. None of the samples were declared to be adulterated, although about 6 per cent are classified as "doubtful." Professor Kenrick's report is valuable mainly on account of certain investigatory work contained in it. Thus, he has demonstrated that the so-called *domestic method* of infusing tea, while less fully removing the total soluble matters than is the case with ordinary laboratory methods, yields fairly constant and comparable results, if carried out according to a definite *modus*; and extracts the Theine with much greater relative completeness than the Tannin, a matter which is of importance in the household. The following figures are instructive and important:—

	LABORATORY METHODS OF EXTRACTION.				DOMESTIC METHOD OF EXTRACTION (KENRICK.)			
	No. of samples.	Total Extractive.	Theine.	Tannin.	No. of samples.	Total Extractive.	Theine.	Tannin.
Black teas (averages).	44	31.89	2.47	13.33	23	23.56	2.73	5.29
Green teas (averages)	19	39.92	2.14	19.47	7	31.38	2.46	9.40

NOTE.—The results given under Laboratory Methods are quoted from Hassall, Battershall, Bell, Dragendorff and others.

A second examination was made in 1904, when 73 samples collected throughout Canada, were found to be genuine teas. This report forms Bulletin No. 99.

A third collection was made in August, 1907, comprising 89 samples, of which 82 were pronounced genuine and 7 samples "doubtful." (See Bulletin No. 130).

The late Chief Analyst was guided in his decisions regarding teas, by the following Order in Council, of date September 11, 1894.

"Tea shall be considered as adulterated which contains leaves other than those of the tea-plant; or previously infused leaves or leaves of inferior quality to such an extent as to reduce the amount of extract or substances soluble in hot water to less than thirty per cent, or cause the proportion of ash soluble in hot water to be less than two and three-quarters per cent; or any admixture of chemicals or other deleterious substances, or such an amount of mineral matter as will cause the amount of ash to exceed eight per cent reckoned on the sample dried at 100° C."

The Order in Council fixes 30 per cent as a minimum of extractive matter, without however defining a method by which the extract shall be made. It is seen from Professor Kenrick's figures, that the so-called *domestic method*, does not extract 30 per cent of soluble matter in black teas, and it follows that this method cannot be regarded as authoritative under present regulations. For this reason it has not been adopted in the performance of the work now recorded. The extract has been determined by the following process.

To 5 grammes of the sample, ground to a tolerable degree of fineness, 200 cc. of water is added, and boiled on a sand-bath, in a glass flask, for two hours. It is then thrown on a filter, and the residue washed 3 times with warm water. The filtrate and washings, are made up to a definite volume and an aliquot portion is evaporated to dryness, at 100° C.

Working by this method, it will be seen that 157 samples (= 71 per cent. of the collection) yielded 30 per cent of extractive. If a reasonable margin of error (1 per cent) be allowed, the number reaching the standard is 172 (78 per cent). Of 50 samples which fail to reach the standard of extractive, 31 are black teas, and 19 green teas. It has already been pointed out that the mean extractive matter in green tea is normally higher than in black.

It is impossible to describe the fifty samples falling below 30 per cent extractive, as adulterated under the Act, because the Order in Council of September 11, 1894, does not describe the method by which the extractive is to be determined. It is well known that if the boiling of vegetable matter be long continued, although readily soluble substances are dissolved in an hour, or less, the more difficult soluble material continues to go into solution for several hours, and a greatly prolonged boiling may bring about decomposition products which are more or less soluble, so that a definite end point is difficult to reach. It is evidently not the intention of this test, as applied to tea, that the boiling should be continued to the point of decomposition of tissues; but the mode of operating should be exactly defined.

In order to demonstrate the importance of this point, four samples which gave distinctly less than 30 per cent extractive by the method already described, were subjected to more vigorous extraction, and gave the following results:—

Number of Sample.	Extractive as per Tables.	Extraction continued.	Mean.	Difference.
37600	23.52	{ 34.84 34.66 }	34.74	11.22
36872	23.68	{ 26.72 26.36 }	26.04	2.36
40017	22.56	{ 33.00 31.00 }	32.00	9.44
29903	21.72	{ 25.20 25.40 }	25.30	3.58

These very large differences suffice to show the necessity of exactly defining the method by which extractive is to be determined.

Two samples, both invoiced as *Tea Dust* exceed the limit of 8 per cent of ash. It is open to question whether the article sold as *Tea Dust* should be regarded as a com-

mercial tea, for purposes of the Act. These samples are sold at 12 cents per pound, retail; and this fact, together with the acknowledgment that they are *Tea Dust*, leads me to question whether they should be held to be adulterated under the Act.

## SUMMARY OF RESULTS.

	Samples.
Total number of Teas examined.....	222
" " Black Teas .....	160
" " Green " .....	54
" " Mixed " .....	8
Below Standard } Black Teas.....	31
in Extractive } Green " .....	19
Yielding more than 8 per cent ash.....	2

Previous inspections of tea have included all grades of the article. On this occasion special instructions were given to inspectors to purchase the cheapest grades only. With very few exceptions, the teas herein reported are retailed at from 15 to 30 cents per pound. They may therefore be regarded as representing the lower qualities of this article. Most samples consist of large, coarse leaves, very much broken, and have a large porportion of leaf-stalks and bits of stem. The delicate aroma of good tea is notably absent, on infusing; but the teas are botanically true to name, and no admixture of foreign leaves occurs.

The results of this examination as submitted, will enable action to be taken with a view to defining methods of analysis; and particularly emphasize the necessity of altering the Order in Council of September 11, 1894, so as to include in it a description of the mode of making the extract of tea therein referred to.

It is also desirable to ascertain whether an article sold as *Tea Dust*, is to be regarded as *Tea* for purposes of the Act.

I beg to recommend publication of this report as Bulletin No. 183.

I have the honour to be, Sir,  
Your obedient servant,

A. MCGILL,  
Chief Analyst.

BULLETIN No. 193—TEA.

Date of Collection.	Nature of Sample.	Number of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by Vendor.	Inspector's Report. (Is not an expression of opinion).	RESULTS OF ANALYSIS.			Number of Sample.	Remarks and Opinion of the Chief Analyst.
				Quantity.	Cent.			Total Ash	Extrac-tive.	Microscopical Examination.		
1909.												
April 14	Tea, Black.	33911	Wm. Moore, Halifax, N.S.	1 lb.	20	Bryant & McDonald, Halifax, N.S.		5.40	34.50	Broken tea leaves and some pieces of stems.	33911	
" 14	"	33912	Wentwell's, Ltd., Halifax, N.S.	1 "	30	Vendors		5.24	32.90	Broken tea leaves	33912	
" 14	"	33913	Craig & Hodgson, Halifax, N.S.	1 "	25	J. E. Morse & Co., Halifax, N.S.		5.80	29.68	Broken tea leaves and a few pieces of stems	33913	
" 15	"	33914	J. D. Stewart, Halifax, N.S.	1 "	25	Bauld Bros. & Co., Halifax, N.S.		6.10	30.80	Broken tea leaves	33914	
" 15	"	33915	J. W. Hogan, Halifax, N.S.	1 "	25	Jno. Tobin & Co., Halifax, N.S.		5.34	31.75	"	33915	
" 15	"	33916	A. L. Doyle & Co., Halifax, N.S.	1 "	25	J. E. Morse & Co., Halifax, N.S.		6.54	34.84	"	33916	
" 15	"	33917	Forrestall & Co., Halifax, N.S.	1 "	30	Bauld Bros. & Co., Halifax, N.S.		5.50	35.20	"	33917	
" 15	"	33918	T. J. Brown, Halifax, N.S.	1 "	30	H. W. DeForest, St. John, N.R.	" Union "	5.48	32.64	Broken tea leaves and some pieces of stems.	33918	
" 15	"	33919	A. J. Finley, Halifax, N.S.	1 "	30	Unknown.		5.30	26.44	Broken tea leaves	33919	Extractive low.
" 15	"	33920	City Provision Co., Halifax, N.S.	1 "	30	A. Holmcker, Halifax, N.S.	" Perfect Ceylon. "	5.14	33.92	Broken tea leaves and some pieces of stems.	33920	
" 15	"	33921	J. S. Archibald & Son, Halifax, N.S.	1 "	30	Unknown.	Sold as "China"	5.10	29.40	Broken tea leaves	33921	
" 16	"	33922	Shore & Campbell, Halifax, N.S.	1 "	25	Bryant & McDonald, Halifax, N.S.	Ceylon	5.60	34.26	"	33922	
" 16	"	33923	S. A. Clarke & Co., Halifax, N.S.	1 "	25	J. E. Morse & Co., Halifax, N.S.	" Monarch. "	5.20	23.84	"	33923	
" 23	"	33924	E. M. Walker, Dartmouth, N.S.	1 "	30	Unknown.	" Mountain. "	5.56	38.00	Broken tea leaves and a few pieces of stems	33924	
" 23	"	33925	A. W. Huxtable, Dartmouth, N.S.	1 "	30	Bauld Bros. & Co., Halifax, N.S.	" Acadia. "	5.40	32.76	Broken tea leaves	33925	

DISTRICT OF NOVA SCOTIA—R. J. WAUGH, INSPECTOR.



DISTRICT OF PRINCE EDWARD ISLAND—THEO. MOORE, INSPECTOR.

April 7	Tea, Black.	31456	R. T. Holman, Summerside.	25	T. H. Estabrooks, St. John, N.B.	"Reliance" blend	5:40	33:24	Broken tea leaves	31456
"	"	31459	W. Y. Lister, Summerside.	25	Rowley & Davies, London, Eng.	"Beaver" blend	5:50	36:06	"	31459
"	"	31460	F. W. Strong, Summerside.	25	Burbridge, Pritchard & Bartlett, London, Eng.	"Crown" blend	5:44	33:12	"	31460
"	"	31461	Brace & McKay, Summerside.	25	Rowley & Davies, London, Eng.	"	5:54	36:12	Broken tea leaves and a few pieces of stems	31461
"	"	31462	Sinclair & Summerside.	25	J. E. Morse & Co., Halifax, N.S.	"	5:54	38:32	Broken tea leaves	31462
"	"	31463	J. A. Hynes, Kennington.	25	T. H. Estabrooks, St. John, N.B.	"	5:40	32:12	Broken tea leaves and a few pieces of stems	31463
"	"	31464	James Kennedy, Kensington.	25	W. W. DeForest, St. John, N.B.	"Starlight" blend.	5:40	32:32	Broken tea leaves	31464
"	"	31465	A. E. McKinnon, Mount Stewart.	25	Carvell Bros., Charlottetown.	"	5:34	34:40	Broken tea leaves	31465
"	"	31466	W. H. Pigott, Mount Stewart.	25	T. H. Estabrooks, St. John.	"	5:34	34:20	"	31466
"	"	31467	Clarke Bros., Mount Stewart.	24	W. D. Stroud, Montreal.	"Champion" Blend.	5:50	33:12	"	31467
"	"	31468	P. W. McLeod, Mount Stewart.	24	H. W. De Forrest, St. John, N.B.	"McLeod's Scotch" Blend	5:40	30:56	Broken tea leaves and some pieces of stems	31468
"	"	31469	A. A. McDonald, Georgetown.	25	Stroud & Son, Montreal.	"A Blend Tea"	5:44	38:72	Broken tea leaves	31469
"	"	31470	W. W. Jenkins, Georgetown.	25	McGougan & Co., Georgetown.	"Empire" Blend	5:48	35:40	Broken tea leaves and a few pieces stems	31470
"	"	31471	Stewart & Son, Charlottetown.	25	Bryant & McDonald, Halifax.	"Famous" Blend	5:4		"	31471
"	"	31472	George Rackham, Charlottetown.	25	H. Hassard, Charlottetown.	"Hassard's" Blend.	5:4		tea leaves	31472

DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON, INSPECTOR.

Mar. 22	Tea, Black.	29892	Barbours Ltd., St. John, N.B.	30	J. Harvey Brown, St. John, N.B.	"Peerless"	5:54	32:42	Broken tea leaves	29892
"	"	29893	H. W. Dykeman, St. John, N.B.	35	P. C. Larkin & Co., Montreal.	"Salada"	4:40	26:48	"	29893
"	"	29894	G. H. Stephenson, St. John, N.B.	30	T. H. Estabrooks & Co. Ltd., St. John, N.B.	"Red Rose"	5:06	22:60	"	29894
"	"	29895	D. Coaman, St. John, N.B.	30	Baird & Peters, St. John, N.B.	"Vim"	5:50	32:12	Broken tea leaves and a few pieces of stems	29895
"	"	29896	James Collins, St. John, N.B.	35	Vendor	"Emerald"	5:50	32:32	Broken tea leaves and some pieces of stems	29896

Extractive low



# BULLETIN No. 183—TEA.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report. (Is not an expression of Opinion.)	RESULTS OF ANALYSIS.			No. of Sample.	Remarks and Opinion of the Chief Analyst.
				Quantity.	Cent.			Total Ash	Extractive.	Microscopical Examination.		

## DISTRICT OF NEW BRUNSWICK—J. C. FERGUSON—Concluded.

1909.												
Apr. 6	Tea, Black.	29897	T. W. Sansom, Fredericton, N.B.	1 "	30	Chas. H. McDonald, St. John, N.B.	"Red Clover".	5.54	25.68	Broken tea leaves.	29897	Extractive low.
" 8	"	29898	Estate of John Graham Woodstock, N.B.	1 "	40	W. C. Purves, St. Stephen, N.B.	"	5.48	33.52	"	29898	"
" 8	"	29899	B. Beveridge, Andover, N.B.	1 "	35	Harry W. DeForest, St. John, N.B.	"Nectar".	5.50	30.08	Broken tea leaves and some pieces of stems.	29899	"
" 10	"	29900	J. W. McPhail, Perth, N.B.	1 "	35	W. C. Purves, St. Stephen, N.B.	"	5.28	32.24	"	29900	"
" 14	"	29901	N. W. Eveleigh & Co., Sussex, N.B.	1 "	25	Chas. H. McDonald, St. John, N.B.	"Eveleigh's Special".	5.50	33.72	"	29901	"
" 10	"	29902	C. W. Lewis, Perth, N.B.	1 "	30	W. D. Stroud, Montreal.	"	5.94	34.32	Broken tea leaves.	29902	"
" 14	"	29903	Alex. J. Roy, Moncton, N.B.	1 "	25	Geo. E. Barbour Co., Ltd., St. John, N.B.	"	4.68	21.72	"	29903	Extractive low.
" 16	"	29904	J. D. Paulin, Newcastle, N.B.	1 "	30	Bryan & McDonald, Halifax, N.S.	"Paulins Best".	5.40	34.64	Broken tea leaves and some pieces of stems.	29904	"
" 17	"	29905	Adams Burns & Co., Bathurst, N.B.	1 "	25	Chas. H. McDonald, St. John, N.B.	"	5.86	24.56	Broken tea leaves and some stems.	29905	Extractive low.
" 19	"	29906	Moore Bros., Campbellton, N.B.	1 "	30	W. F. Hatheway Co., Ltd., St. John, N.B.	"Tiger".	5.44	25.84	Broken tea leaves.	29906	"

## DISTRICT OF QUEBEC—E. BELAND, INSPECTOR.

April 21	Tea, Green.	36868	T. Falardeau, Quebec.	1 lb.	13	T. B. Bedard & frere, Quebec.	"	7.24	35.42	Broken tea leaves.	36868	"
" 21	" Mixed.	36869	C. T. Bailey, Quebec.	1 "	12	Stroud, Montreal.	"	9.74	32.60	Tea dust.	36869	Ash too high.
" 21	" Green.	36870	F. X. Goulin, Quebec.	1 "	20	Lavoie & Dion, Quebec.	"	6.10	31.48	Broken tea leaves.	36870	"

"	"	"	36871	Louis Nadeau, Quebec	1 "	25	Unknown.	.....	5 28	31 76	"	.....	36871	
"	"	Black	36872	A. Pouliot, Quebec	1 "	20	Lavoie & Latulippe, Quebec.	.....	6 90	23 68	Broken tea leaves and some pieces of stems.	.....	36872	Extractive low.
"	"	Green	36873	Emile Enond	1 "	20	Stroud, Montreal	.....	6 54	28 12	Broken tea leaves.	.....	36873	"
"	"	Black	36874	L. A. Warren, Quebec	1 "	20	A. Giguere, Quebec.	.....	5 44	23 56	"	.....	36874	"
"	"	Green	36875	Denis Davis, Quebec	1 "	40	Unknown	.....	6 50	32 56	"	.....	36875	
"	"	Black	36876	A. Turcotte, Quebec	1 "	20	Drouin Frere, Quebec.	.....	5 48	32 32	"	.....	36876	
"	"	Green	36877	A. Brodeur, Quebec	1 "	30	Unknown.	.....	6 34	24 72	"	.....	36877	Extractive low.
"	"	"	36878	T. E. Gregoire, Quebec	1 "	12	Lavoie & Dion, Quebec	.....	9 24	26 00	Tea dust.	.....	36878	Extractive low; ash too high.
"	"	"	36879	T. L. Letourneau, Quebec.	1 "	15	Joseph & Son, Quebec	.....	6 04	36 56	"	.....	36879	
"	"	"	36880	C. Belanger, Quebec	1 "	15	Unknown.	.....	7 54	25 08	Broken tea leaves.	.....	36880	Extractive low.
"	"	Black	36881	M. W. Colman	1 "	25	"	.....	5 34	35 04	Broken tea leaves and a few pieces of stems	.....	36881	
"	"	Green	36882	H. St. Cyr, Quebec	1 "	15	Whitead & Turner, Quebec.	.....	7 40	26 60	Slightly broken tea leaves.	.....	36882	Extractive low.

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## DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR.

April 19	Tes, Green.	1001	O. F. Piche, Drummondville.	1 lb.	25	Unknown.	.....	Green, Ceylon	6 10	39 44	Broken tea leaves.	.....	1001	
"	"	20	P. Laroche, Farnham.	1 "	40	Kearney Bros., Montreal.	.....	Japan.	6 14	30 40	Broken tea leaves and a few stems.	.....	1002	
"	"	21	J. Raymond, St. Jean.	1 "	30	M. Brassard, St. Jean.	.....	"	5 36	29 04	Broken tea leaves.	.....	1003	
"	"	23	J. Brodeur, Granby.	1 "	40	W. D. Stroud, Montreal.	.....	"	6 80	39 08	"	.....	1004	
"	"	26	A. G. Prefontaine, Beloit.	3 pks.	60	P. C. Larin & Co., Montreal.	.....	Green, Guatemal pure.	4 56	38 76	Broken tea leaves and a few stems.	.....	1005	
"	"	28	W. L. Beauchemin, Roxton Falls.	3 "	25	Hudon, Hebert & Cie, Montreal.	.....	Japan.	6 84	40 00	Broken tea leaves.	.....	1006	
"	"	28	A. Chicoine, Acton vale.	3 "	15	Kearney Bros., Montreal.	.....	"	6 46	25 44	Minute fragments of tea leaves.	.....	1007	Extractive low.
"	"	28	Geo. E. Hetu, Upton.	1 lb.	40	Lacaille & Gendreau, Montreal.	.....	Japan	6 08	36 84	Broken tea leaves.	.....	1008	
"	"	29	T. Mahen, Arthabaska.	1 "	25	H. H. Guay, Victoria ville.	.....	Green	6 04	24 44	"	.....	1009	Extractive low

## BULLETIN No. 183—TEA.

Date of Collection.	Nature of Sample.	Number of Sample.	Gwt.		Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by the Vendor.	Inspector's Report. (Is not an expression of Opinion).	RESULTS OF ANALYSIS.			Remarks and Opinion of the Chief Analyst.	
			Quantity.	Cents.				Total Ash	Extrac- tive.	Microscopical Examination.		
DISTRICT OF ST. HYACINTHE—J. C. ROULEAU, INSPECTOR—Concluded.												
1909.								p. c.	p. c.			
April 29	Tea, Green.	1010	U. Mahew, Victoria-ville.	1 "	25	L. Chaput fils & Co., Montreal.			6.20	28.50	Broken tea leaves and a few stems.	1010 Extractive low
May 5	" Black.	1011	W. B. Murray, Sherbrooke.	1 "	40	Unknown	Black		4.94	35.64	Broken tea leaves.	1011
" 5	" "	1012	Johnston Bros., Lennoxville.	1 "	30	"	"		5.54	28.76	"	1012 Extractive low.
" 6	" "	1013	F. W. D. Mellow, Rock Island.	1 "	25	Lipton, England.	"		6.14	28.12	"	1013
" 10	" Green.	1014	Louis Valin, St. Joseph de St. Hyacinthe.	1 "	30	Kearney Bros., Montreal.	Japan		6.70	32.00	Broken tea leaves and a few stems.	1014
" 18	" "	1015	C. Danereau, Contrecoeur.	1 "	30	Leveille & Gendreau, Montreal.	"		5.70	37.52	"	1015
DISTRICT OF MONTREAL—J. J. COSTIGAN, INSPECTOR.												
April 13	Tea, Green.	40011	A. Laurandean, 85 St. Paul St., Montreal.	1 lb.	20		Green		6.06	26.08	Broken tea leaves.	40011 Extractive low.
" 13	" Black.	40012	"	1 "	25		Black		5.12	27.64	Broken tea leaves and pieces of stems.	40012 "
" 14	" "	40013	S. Desaulniers, 437 Notre Dame W.	1 "	20		"		5.54	25.16	"	40013 "
" 14	" "	40014	"	1 "	25		"		5.14	27.72	"	40014 "
" 14	" "	40015	C. T. Spinello, 502 1/2 Notre Dame W.	1 "	35		"		5.74	34.08	Broken tea leaves.	40015
" 14	" Green.	40016	N. Sirois, 32 Craig St., Montreal.	1 "	25	J. A. Simard, Montreal.	Japan		7.10	30.52	Broken tea leaves and pieces of stems.	40016
" 14	" Black.	40017	J. J. Duffy & Co., Montreal.	1 "	30		Black. Special Blend.		5.40	22.56	"	40017 Extractive low.

"	26	"	Green.	40018 F. Rivet, Joliette....	1 "	30	.....	Japan	5-90	37-40	"	.....	40018
"	26	"	Black.	40019 O. Chevalier & fils., Joliette.	1 "	35	.....	Black	5-30	36-68	Broken tea leaves	.....	40019
"	28	"	"	40020 E. Lavigne, Lachute, P.Q.	1 "	30	.....	"	5-24	32-08	"	.....	40020
"	28	"	Green.	40021 G. L. Meikle, Lachute, P.Q.	1 "	25	.....	Green	6-54	41-72	Broken tea leaves and pieces of stems.	.....	40021
May	6	"	"	40022 C. E. Lafamme, St. Jérôme.	1 "	25	.....	Japan	6-20	27-56	Broken tea leaves	.....	40022 Extractive low.
"	6	"	Black.	40023 J. M. Richard, St. Jérôme.	1 "	30	.....	Black	5-30	31-08	Broken tea leaves and a few pieces of stems.	.....	40023
"	12	"	Green.	40024 E. Brin, Montreal.	1 "	30	.....	Japan	6-74	30-84	Broken tea leaves	.....	40024
"	12	"	"	40025 A. Genereau, Montreal	1 "	25	.....	"	7-14	35-09	"	.....	40025

## DISTRICT OF OTTAWA—J. A. RICKEY, INSPECTOR.

Mar.	16	Tea, Green.	22911 M. J. Lavigne, Hull, P.Q.	1 lb.	15	.....	Unknown	.....	7-14	27-56	Broken tea leaves	.....	22911 Extractive low.
"	16	"	22912 D. Seguin, Hull, P.Q.	1 "	20	.....	"	.....	7-00	28-88	"	.....	22912 "
"	19	"	22913 R. J. Cameron, Buckingham.	1 "	25	.....	J. A. Cunningham, Buckingham.	" Owl Chop "	5-00	28-96	Broken tea leaves and pieces of stem.	.....	22913 "
"	19	"	22914 McCallum & Lahaie, Buckingham.	1 "	20	.....	F. W. Allan, Buckingham.	"	6-30	28-16	Broken tea leaves	.....	22914 "
"	22	"	22915 W. A. Hodgins, Shawville.	1 "	30	.....	Matthews & Sons, Montreal.	"	5-00	33-52	Broken tea leaves and pieces of stem.	.....	22915
"	23	"	22916 G. A. Ellis, Renfrew.	1 "	25	.....	Thos. Woods, Montreal.	"	4-62	30-52	Broken tea leaves	.....	22916
"	23	"	22917 Carwell & Co., Renfrew.	1 "	25	.....	Geo. Robertson & Son, Kingston.	"	6-34	31-60	"	.....	22917
"	23	"	22918 J. L. Lafontaine, Ottawa.	1 "	40	.....	Canada Direct Tea Trading Co., Ottawa.	"	5-96	32-72	Broken tea leaves and pieces of stem.	.....	22918
"	24	"	22919 D. St. Amour, Ottawa.	1 "	25	.....	S. J. Major, Ltd., Ottawa.	"	7-30	28-32	Broken tea leaves	.....	22919 Extractive low.
"	"	"	22920 J. E. Duhaime, Ottawa.	1 "	25	.....	F. J. Castle Co., Ottawa.	"	5-40	32-28	"	.....	22920
"	24	"	22921 F. Schingl, Ottawa.	1 "	25	.....	Jos. Grant, Ottawa.	"	5-04	34-76	"	.....	22921
"	26	"	22922 Jas. Herbert, Ottawa.	1 "	25	.....	Kearney Bros., Montreal.	"	5-54	33-20	Broken tea leaves and pieces of stem.	.....	22922
"	26	"	22923 M. J. Laverdure, Hull.	1 "	25	.....	"	"	7-08	25-52	"	.....	22923 Extractive low.
"	26	"	22924 A. Gagnon, Hull.	1 "	25	.....	Unknown	"	5-04	31-84	Broken tea leaves	.....	22924
"	27	"	22925 W. H. Dickson, Quyon, P.Q.	1 "	25	.....	W. D. Stroud, Montreal	"	5-54	33-08	Broken tea leaves and a few pieces of stems	.....	22925

BULLETIN No. 183—TEA.

Date of Collection.	Nature of Sample.	Number of Sample.	Court.		Name and Address of Vendor.	Name and Address of Manufacturer or Furnisher as given by Vendor.	Inspector's Report. (Is not an expression of Opinion).	RESULTS OF ANALYSIS.			Number of Sample.	Remark and Opinion of the Chief Analysts	
			Quantity.	Cents.				Total Ash.	Extractive.	Microscopical Examination.			
DISTRICT OF KINGSTON—JAS. HOGAN, INSPECTOR.													
1909.													
Mar. 17	Tea, Green.	39441	Geo. Gibson, Kingston	1 lb.	30	Minto Bros., Toronto			p. c. 5.74	p. c. 33.12	Broken tea leaves and pieces of stem.	39441	
" 17	" Mixed.	39442	Wm. Davies, Kingston	1 "	30	Wm. Davies			4.96	32.00	Broken tea leaves.	39442	
" 17	" Black.	39443	W. D. Stroud, Kingston	1 "	20	W.D. Stroud, Montreal			5.34	31.64	Broken tea leaves and pieces of stem.	39443	
" 17	" "	39444	P. A. Hafner, Kingston	1 "	30	Geo. Robertson & Son, Kingston.			5.34	38.36	" "	39444	
" 17	" Green.	39445	Jas. McCulla, Kingston.	1 "	20	Kearney Bros., Montreal.			6.96	28.64	Broken tea leaves.	39445	Extractive low.
" 17	" Black.	39446	J. Lemmon, Kingston.	1 "	27	W. G. Craig, Kingston			5.28	33.72	" "	39446	
" 17	" "	39447	J. A. Donaldson, Kingston.	1 "	25	" "			5.60	31.30	" "	39447	
" 17	" "	39448	A.T. Morris, Kingston	1 lb.	25	Geo. Robertson, Kingston.			5.24	30.80	Broken tea leaves.	39448	
" 18	" "	39449	H.M. Sover, Kingston	1 "	40	" "			5.20	32.32	Broken tea leaves and pieces of stem.	39449	
" 18	" Green.	39450	C. Litton, Kingston	1 "	25	Minto Bros., Toronto.			6.20	33.06	Broken tea leaves.	39450	
" 22	" Black.	39451	J. Harker, Belleville.	1 "	25	Unknown			5.40	32.00	" "	39451	
" 22	" "	39452	Guillet Bros., Cobourg	1 "	25	Hayhoe Co., Toronto.			5.70	29.24	Broken tea leaves and pieces of stem.	39452	
" 23	" "	39453	J. E. Lillico, Peterboro.	1 "	26	Perkins & Ince Co., Peterboro.			5.16	32.04	Broken tea leaves.	39453	
" 23	" "	39454	W. J. Roulty, Peterboro.	1 "	30	Balfour & McLain, Hamilton.			5.02	35.48	" "	39454	
" 23	" "	39455	R. A. Dutton, Peterboro.	1 "	25	Wran Bros., Toronto.			5.90	37.84	Broken tea leaves and pieces of stem.	39455	

## DISTRICT OF TORONTO—H. J. DAGER, INSPECTOR.

April	5	Tea, Black.	36202	John Young, Hamilton	1 lb.	25	Balfour S-nye & Co., Hamilton.	5-38	54-40	Broken tea leaves and a few pieces of stem.	36202	Extractive low.
"	5	" Green.	36203	G. H. Williams, Hamilton.	1 "	30	W. H. Gillard & Co., Hamilton.	5-94	28-76	Broken tea leaves.	36203	
"	5	" Black.	36204	J. W. Jones, Hamilton	1 "	25	Lumsden Bros., Hamilton.	5-38	29-48	"	36204	
"	8	" Green.	36205	John Bond & Co., Aurora.	1 "	25	Kearney Bros., Montreal.	6-20	26-46	"	36205	Extractive low
"	8	" Black.	36206	F. H. Prosser, Market	1 "	25	Canada Brokerage Co., Toronto.	5-10	28-88	Broken tea leaves and some stems.	36206	
"	12	" "	36207	M. J. Douglas, Bradford.	1 "	25	Blue Ribbon Tea Co., Toronto.	5-48	35-44	Broken tea leaves.	36207	
"	13	" Green.	36208	John Cushman, Barrie	1 "	25	R. B. Hayhoe & Co., Toronto.	6-74	29-44	"	36208	
"	13	" Black.	36209	J. M. Bothwell, Alliston.	1 "	25	Vendor.	5-36	33-30	Broken tea leaves and pieces of stem.	36209	
"	14	" "	36210	Wm. McMullin, Alliston.	1 "	30	Minto Bros., Toronto.	5-56	33-64	"	36210	
"	14	" "	36211	J. J. McKnight, Tottenham.	1 "	30	John Sloan & Co., Toronto.	5-48	40-00	Broken tea leaves.	36211	
"	16	" Green.	36212	Oliver McKay, Georgetown.	1 "	30	Minto Bros., Toronto.	5-30	41-68	"	36212	
"	17	" Black.	36213	J. S. Bond, Toronto.	2 Pkgs	30	T. H. Esterbrook, Toronto.	5-04	33-24	"	36213	
"	17	" "	36214	A. Browne, Toronto.	1 lb.	30	I. Lumsden Co., Toronto.	5-44	37-04	"	36214	
"	17	" "	36215	A. E. Proctor, Toronto	2 Pkgs	40	H. P. Eckardt & Co., Toronto.	5-60	36-32	Broken tea leaves and some stems.	36215	
"	17	" Green.	36216	Thornton, Toronto.	1 lb.	35	James Lambers Co. Ltd., Toronto.	5-74	40-04	Broken tea leaves.	36216	

## DISTRICT OF LONDON—T. C. KIDD, INSPECTOR.

Mar.	26	Tea, Mixed.	30697	White Packing Co., Stratford.	1 1/2 lb.	45	T. H. Esterbrook, St. John's, Newfoundland	5-20	32-56	Broken tea leaves.	30697	
"	29	" Black.	30698	T. S. Bleas, Seaford.	1 1/2 "	45	Howey, Stratford.	5-12	30-32	"	30698	
"	31	" Mixed.	30699	Mosiah Linder, Goderich.	1 1/2 "	60	McEwin Bros., Goderich.	5-30	31-64	"	30699	
"	31	" Black.	30615	Mrs. J. Carroll, Goderich.	1 1/2 "	60	Blue Ribbon Tea Co., Montreal.	5-90	31-32	Broken tea leaves and pieces of stem.	30615	
"	1	" Mixed.	30616	Popplestone & Gardner, Blyth.	1 1/2 "	30	"	5-58	29-16	Broken tea leaves.	30616	
"	1	" Black.	30618	G. M. Chambers, Blyth	1 "	40	W. H. Gillard, Hamilton.	5-14	28-76	"	30618	Extractive low

## BULLETIN No. 183—TEA.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Inspector's Report. (Is not an expression of Opinion.)	RESULTS OF ANALYSIS.			Remarks and Opinion of the Chief Analyst.
				Quantity.	Cents.		Total Ash.	Extrac- tive.	Microscopical Examination.	
DISTRICT OF LONDON—T. C. KIDD, INSPECTOR—Concluded.										
1909.										
April 1	Tea, Black.	30621	Elman Moore, Wing-ham.	1½ "	45	Salada Tea Co., Toronto.	6.36	29.20	Broken tea leaves and pieces of stem.	30621 Extractive low.
" 2	" "	30623	Kerr & Birds, Wing-ham.	1½ "	45	Unknown.	5.40	26.24	Broken tea leaves.	30623 Extractive low.
" 2	" Green.	30625	A. J. Malcolm, Wing-ham.	1 "	25	Blue Ribbon Tea Co., Toronto.	5.70	27.20	"	30625 Extractive low.
" 2	" Mixed.	30626	Waller Bros.	1½ "	60	H. F. Eckert & Co., Toronto.	5.84	32.40	Broken tea leaves and pieces of stem.	30626
" 2	" Black.	30627	N. Krotz, Listowell.	1 "	25	T. B. Esott & Co., London, Ont.	6.50	26.28	Broken tea leaves.	30627 Extractive low.
Mar. 28	" Mixed.	30628	McCulley & Haugh, Stratford.	1½ "	45	McIlhardy, Stratford.	5.30	31.04	"	30628
DISTRICT OF WINDSOR—JOHN TALBOT, INSPECTOR.										
April 5	Tea, Black.	34755	T. A. Rowat, London.	1 lb.	25	Elliott & Mar, London.	5.48	31.06	Broken tea leaves and a few pieces of stem.	34755
" 5	" Green.	34756	John Diprose, London.	1 "	30	"	5.54	34.60	Broken tea leaves.	34756
" 5	" Black.	34758	N. McLeod, London.	1 "	25	Balfour & Co., Hamilton.	5.56	33.84	"	34758
" 5	" Green.	34759	Kidner & Co., London.	1 "	25	Ed. Adams & Co., London.	7.04	31.60	"	34759
" 5	" Black.	34760	F. G. Willis, London.	1 "	25	Estabrooks, Toronto.	5.70	33.92	Broken tea leaves and a few pieces of stem.	34760
" 5	" "	34761	T. W. Vincent, London.	1 "	30	"	5.64	34.16	"	34761
" 5	" Green.	34762	Mrs. Yates, London.	1 "	30	Scarratt Bros., London.	6.40	26.92	Broken tea leaves.	34762
April 5	" Black.	34764	T. McKay.	1 lb.	25	Ed. Adams & Co., London.	5.30	29.12	Broken tea leaves.	34764



5	"	34766	Rowntree & Fonger.	1	25	Haynes, Toronto.	5 80	30 00	34766
"	"	34767	H. Glach	1	25	A. M. Smith & Co., London.	6 16	32 68	34767
"	Green	34768	H. Marshall	1	25	M. Masurett & Co., London.	5 84	31 04	34768
"	"	34769	H. Fountaine	1	25	Unknown	5 70	25 20	34769
"	Black	34770	H. Fountaine	1	25	Balfour & McLaren, Hamilton.	5 20	20 44	34770
"	"	34771	F. Harley & Son	1	25	"	5 14	23 36	34771
"	"	34772	H. Ranahan	1	25	M. Masurett & Co., London.	6 10	25 28	34772
"	Green	34773	Chas. Finchamp	1	25	"			34773

## DISTRICT OF MANITOBA—A. C. LARIVIERE, INSPECTOR.

April 19	Tea, Black	35881	H. Fensom, Winnipeg	1 lb.	40	Salada Tea Co.	4 94	27 30	35881	Extractive low.
"	"	35882	A. Breakwell, Winnipeg	1	30	The Jobin Marine Co., Winnipeg.	5 50	33 00	35882	"
"	"	35883	T. R. Brough, Carberry	1	35	Unknown	5 70	30 32	35883	Broken tea leaves and a few pieces of stems
"	"	35884	R. Beattie & Sons, Winnipeg.	1	25	"	5 74	38 16	35884	"
"	"	35885	B. Moffet, Winnipeg.	1	25	Crook, Brown & Co., Winnipeg.	5 20	33 04	35885	Broken tea leaves.
"	"	35886	J. Braunstein, Winnipeg	1	25	The Codville Co.	5 06	26 64	35886	Broken tea leaves and a few pieces of stems
"	"	35887	S. J. Staples, Carman, Man.	1	15	Hunt & Co., Yokohama	6 70	30 20	35887	Tea dust.
"	Dust	35888	P. D. J. lair, Elm Creek, Man.	1	35	Campbell Bros., Winnipeg.	5 74	34 04	35888	Broken tea leaves.
"	Black	35889	R. H. Staples, Elm Creek, Man.	1	40	G. F. & J. Galt, Winnipeg.	5 70	33 56	35889	"
"	"	35890	Holliday & Simpson, Elm Creek, Man.	1	40	Unknown	5 00	26 20	35890	Tea leaves and some pieces of stem.
"	"	35891	J. T. Newberry, Napinka.	1	40	T. H. Estabrooks, St. John, N.B.	5 00	35 24	35891	Broken tea leaves.
"	"	35892	W. R. Shaefer, Winnipeg.	1	50	The Dyson Co., Winnipeg.	6 00	37 54	35892	Broken tea leaves and a few pieces of stems
"	"	35893	E. Adelman, Winnipeg	1	40	Unknown	5 54	38 32	35893	Broken tea leaves and a few pieces of stems
"	"	35894	S. J. Derocbe, Winnipeg	1	40	"	5 24	30 72	35894	Broken tea leaves and stems.
"	"	35895	S. Katz, Winnipeg	1	40	The Jobin Marine Co., Ltd., Winnipeg.	5 70	34 68	35895	Broken tea leaves.

## BULLETIN No. 183—TEA.

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				Quantity.	Cost.			Total Ash	Extrac- tive.	Microscopical Examination.		
1909. April 21	Tea, Black.	28959	A. Brandelli, Calgary.	1 lb.	50	G. F. & J. Galt, Ltd., Calgary.	.....	5.64	33.80	Broken tea leaves.	28959	Extractive low.
"	"	28960	Golden West Grocery, Calgary.	1 "	30	L. T. McBurn & Co., Ltd., Calgary.	.....	5.90	24.00	"	28960	
"	"	28961	W. Maitland, Calgary.	1 "	50	"	.....	5.90	36.44	Broken tea leaves and pieces of stems.	28961	
"	"	28962	Mrs. Palmer, Calgary.	1 "	50	G. F. & J. Galt, Ltd., Calgary.	.....	5.64	32.64	Broken tea leaves.	28962	
"	"	28963	Hallett & Longdon, Calgary.	1 "	35	W. W. Moore, Ltd., Calgary.	.....	5.76	32.64	"	28963	
"	"	28964	S. G. Freeze, Calgary.	1 "	35	Balfour & McLaren, Hamilton.	.....	5.10	31.76	"	28964	
"	"	28965	Peoples Co-operative Store, Calgary.	1 "	40	Wm. Davies & Co., Ltd., Toronto.	.....	4.60	34.32	"	28965	
"	"	28966	J. T. Macdonald, Cal- gary.	1 "	40	Brooke, Bond & Co., London, Eng.	.....	5.70	33.52	"	28966	
"	"	28967	Spence Bros., Calgary.	1 lb.	60	"	.....	6.10	34.04	Broken tea leaves and pieces of stems.	28967	
"	"	28968	Watson Bros., Calgary.	1 "	40	Joe. Tetley & Co., Lon- don, Eng.	.....	4.84	33.76	Broken tea leaves and some pieces of stems.	28968	
"	"	28969	W. Verrier, Calgary.	1 "	35	L. T. McBurn & Co., Ltd., Calgary.	.....	5.70	33.68	"	28969	
"	"	28970	McLellan & Hawkes, Calgary.	1 lb.	70	Georgeson & Co., Ltd., Calgary.	.....	5.20	34.64	Broken tea leaves.	28970	
"	"	28971	Premium Ltd., Calgary.	1 "	25	L. T. McBurn & Co., Ltd., Calgary.	.....	5.58	32.28	"	28971	
"	"	28972	Copas & Emerson, Cal- gary.	1 "	40	Unknown	.....	5.36	31.76	"	28972	
"	"	28973	C. J. Winn, Calgary.	1 "	50	G. F. & J. Galt, Ltd., Calgary.	.....	5.86	27.32	"	28973	Extractive low.

## DISTRICT OF CALGARY—R. W. FLETCHER, INSPECTOR.

## DISTRICT OF VANCOUVER—J. F. POWER, INSPECTOR.

Mar. 24	Tea, Black.	37589	T. Russell, Vancouver	1 lb.	40	Kelly, Douglas & Co., Vancouver.	.....	5 40	30 32	Broken tea leaves.	37589
" 24	"	37590	C. L. Smith, Vancouver.	1 "	35	W. H. Malkin & Co., Vancouver.	.....	5 24	32 44	"	37590
" 24	"	37591	ver. J. H. Atkins, Vancouver.	1 "	25	"	.....	5 24	30 20	Broken tea leaves and some pieces of stems.	37591
" 24	"	37592	ver. Pioneer Grocery, Vancouver.	1 "	25	Unknown	.....	5 70	31 00	"	37592
" 24	"	37593	Glencoe Grocery, Vancouver.	1 "	30	Vancouver Tea Co., Vancouver.	.....	5 40	33 82	"	37593
" 24	"	37594	H. A. Edgett & Co., Vancouver.	1 "	25	W. H. Malkin & Co., Vancouver.	"The H. A. Edgett Special"	5 70	32 48	Broken tea leaves.	37594
" 24	"	37595	Geo. Wagg, Vancouver.	1 "	30	Wm. Braid & Co., Vancouver.	.....	5 52	32 64	"	37595
Mar. 24	"	37596	McCalloch Bros., Vancouver.	1 lb.	40	Galt Bros., Vancouver.	.....	5 74	29 00	Broken tea leaves.	37596
" 24	"	37597	S. Coranion, Vancouver.	1 "	35	Unknown	.....	4 80	35 28	"	37597
" 24	"	37598	Dukes Grocery, Vancouver.	1 "	35	Wm. Braid & Co., Vancouver.	"Dukes Special"	5 50	32 68	Broken tea leaves and some pieces of stem.	37598
" 24	"	37599	Gem Grocery, Vancouver.	1 "	40	Ridgways Ltd., Vancouver.	.....	5 36	31 12	Broken tea leaves.	37599
" 25	"	37600	J. A. McMillan, Vancouver.	North 1 "	40	Balfour McLaren, Victoria.	.....	5 66	23 52	Broken tea leaves and pieces of stem.	37600 Extractive low.
" 25	"	37601	A. R. Stacey, Vancouver.	1 "	40	E. W. Lessen & Co., Vancouver.	.....	5 48	28 08	Broken tea leaves and some pieces of stem.	37601 "
" 27	"	37602	London Grocery, Vancouver.	1 "	25	J. W. Berry, Vancouver.	.....	5 46	29 44	Broken tea leaves and pieces of stem.	37602
" 27	"	37603	A. & C. Grocery, Vancouver.	1 "	25	Young Bros., Vancouver.	.....	5 54	26 00	Broken tea leaves and some pieces of stem.	37603 Extractive low.

## DISTRICT OF VICTORIA—D. OSULLIVAN, INSPECTOR.

April 27	Tea, Green.	38301	Wind-or Grocery Co., Victoria, B.C.	1 lb.	40	Baird & Co., Vancouver, B.C.	Young Hyson	6 20	35 08	Broken tea leaves.	38301
" 27	" Black.	38302	"	1 "	40	"	Broken Orange Pekoe Ceylon.	5 14	34 52	"	38302
" 27	"	38303	Saunders Grocery Co., Ltd., Victoria, B.C.	1 "	25	"	"	5 40	32 08	Broken tea leaves and a few pieces of stem.	38303
" 27	" Green.	38304	"	1 "	50	R. P. Bisset & Co., Victoria, B.C.	Young Hyson	5 64	34 72	Broken tea leaves.	38304
" 28	" Black.	38305	Copas & Young, Victoria, B.C.	1 "	30	Hudson Bay Co., Victoria.	Tealeys Tea.	5 24	32 32	"	38305
" 28	"	38306	W. Speed, Victoria, B.C.	1 "	25	W. H. Malkin, Vancouver.	Foochow Congou Tea.	5 40	27 28	"	38306 Extractive low.

## BULLETIN No. 183—TEA.

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				Quantity.	Cents.			Total Ash.	Extrac-tive.	Microscopical Examination.			
DISTRICT OF VICTORIA—D SULLIVAN INSPECTOR—Concluded.													
1902.	Tea, Black..	39307	E. G. Bailey, Victoria, B.C.	1 "	30	Blomquist, Victoria...	.....	5.60	25.40	Broken tea leaves and pieces of stem.	39307	Extractive low.	
April 28	"	39308	F. E. Plummer, Victoria, B.C.	1 "	30	J. W. Berry, Vancouver.	India & Ceylon Black Tea.	5.48	36.80	Broken tea leaves and some pieces of stem.	39308		
"	"	39309	Fred Carne, Victoria, B.C.	1 "	25	W. A. Jameson Coffee Co., Victoria.	Black Ceylon.	4.90	34.04	Broken tea leaves.....	39309		
"	"	39310	Jalland Bros, Victoria, B.C.	1 "	25	R. P. Rithet & Co., Victoria.	The Rajah Ceylon Tea.	5.54	30.80	Broken tea leaves and pieces of stem.	39310		
"	"	39311	Acton Bros., Victoria, B.C.	1 "	35	Braid & Co., Vancouver.	Challenge Cup.	5.28	34.96	"	39311		
"	"	39312	Wm. B. Hall, Victoria, B.C.	1 "	30	"	"	5.64	35.44	"	39312		
"	"	39313	W. A. Jameson Coffee Co., Victoria, B.C.	1 "	25	Balfour McLaren, Hamilton, Ont.	"	4.88	28.32	Broken tea leaves.....	39313	Extractive low.	
"	"	39314	Harrison & McDonald, Victoria, B.C.	1 "	25	Braid & Co., Vancouver.	"	5.20	30.84	"	39314		
"	"	39315	Vict. Rochdale Co-op. Assoc., Victoria, B.C.	1 "	35	W. H. Malkin, Vancouver.	"	5.45	34.20	Broken tea leaves and pieces of stem.	39315		